

## WEIGHTS OF BIRDS FROM ALABAMA AND NORTH CAROLINA

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IN Alabama and North Carolina from 1958 to 1963 we weighed 363 birds of 102 species and 2 hybrids. Some of the birds were collected in pesticide-bird studies of the U.S. Fish and Wildlife Service; others were collected in a program of the Alabama Department of Conservation to build up an educational collection of bird skins; the remainder were banded and released. In Alabama, most of the birds were collected in Montgomery County, but some were taken at locations scattered over the State. All of the North Carolina collections were made at the Hydrologic Experiment Station near Asheville. Our list of birds for which weights were obtained contains 63 species and 2 hybrids not weighed by Norris and Johnston (1958. *Wilson Bull.* 70:114-129) who collected in Georgia and South Carolina. It seems desirable, therefore, to publish these additional data on bird weights from the southeastern United States. Because of the smallness of the sample in individual categories, no deductions are attempted.

### METHODS

The birds collected in Alabama by the senior author were taken in bait traps and were immediately either killed or weighed and released; those taken in North Carolina were mist-netted and immediately killed. The specimens taken by the junior author were shot. All birds killed by both authors were placed in plastic bags and in refrigeration soon after collection. Weights were taken when the birds were removed from refrigeration 2-60 days later. Presumably it might have been desirable to have weighed the birds immediately after capture. Based chiefly on studies with mammals, Banks (1965. *J. Mammal.* 46:110), however, concluded that, with specimens kept in refrigeration up to three months, "the change in weight caused by freezing is negligible." The hours when the birds were captured varied but were not recorded. The smaller birds were weighed on a Chatillon spring balance provided by the U.S. Fish and Wildlife Service; larger birds were weighed on a double-beam balance. In most cases individual weights were taken only to the nearest 0.5 g.

The birds collected for skins were aged by checking the degree of ossification of the skull or by plumage characters. They were sexed by examination of the gonads. Because it was difficult to avoid cross-contamination, the birds collected for chemical analysis of pesticide residues were not dissected for aging and sexing, but, like the birds banded and released, were aged and sexed by external characters when possible. Sex or age were not obtained for some birds. Detailed data are presented in Table 1.

TABLE 1

WEIGHTS (GRAMS) OF BIRDS WITH SPECIES, AGE, SEX, DATE AND STATE OF COLLECTION

- Common Loon (*Gavia immer*)—Female, adult, 28 April, Alabama: 2,891.6.
- Horned Grebe (*Podiceps auritus*)—Male, immature, 15 February, Alabama: 515.0. Female, immature, 17 March, Alabama: 384.0.
- Gannet (*Morus bassanus*)—Male, immature, 17 March, Alabama: 2,948.3. Female, adult, 17 March, Alabama: 3,061.7.
- Canada Goose (*Branta canadensis*)—Female, adult, 21 December, Alabama: 3,855.5. Female, adult, 29 December, Alabama: 3,628.7.
- Lesser Snow Goose (*Chen hyperborea*)—Male, adult, 16 October, Alabama: 1,814.4.
- Mallard (*Anas platyrhynchos*)—Male, adult, 8 December, Alabama: 1,170.0; 1,345.0; 1,372.0. Female, adult, 8 December, Alabama: 1,180.0; 1,393.0.
- Black Duck (*Anas rubripes*)—Male, adult, 6 December, Alabama: 1,200.0.
- Mallard × Black Duck—Unsexed, adult, 8 December, Alabama: 1,370.0.
- Pintail (*Anas acuta*)—Male, adult, 28 December, Alabama: 802.0.
- American Widgeon (*Mareca americana*)—Male, adult, 1 December, Alabama: 558.0. Male, adult, 27 December, Alabama: 789.0. Male, adult, 29 December, Alabama: 713.0. Female, adult, 6 December, Alabama: 696.0.
- Wood Duck (*Aix sponsa*)—Male, adult, 26 December, Alabama: 587.0.
- Canvasback (*Aythya valisineria*)—Male, adult, 29 December, Alabama: 1,086.0.
- Lesser Scaup (*Aythya affinis*)—Female, adult, 29 December, Alabama: 499.0.
- Bufflehead (*Bucephala albeola*)—Female, adult, 12 December, Alabama: 389.0.
- Hooded Merganser (*Lophodytes cucullatus*)—Male, adult, 26 December, Alabama: 748.5. Female, adult, 26 December, Alabama: 518.0.
- Mississippi Kite (*Ictinia mississippiensis*)—Male, adult, 7 May, Alabama: 260.0. Female, adult, 24 August, Alabama: 297.7.
- Cooper's Hawk (*Accipiter cooperii*)—Female, adult, 30 January, Alabama: 609.5.
- Red-tailed Hawk (*Buteo jamaicensis*)—Male, immature, 27 August, Alabama: 963.9. Male, immature, 14 December, Alabama: 878.8. Male, immature, 27 January, Alabama: 949.9. Female, immature, 2 November, Alabama: 1,190.7. Female, immature, 19 November, Alabama: 1,190.7. Female, immature, 9 December, Alabama: 1,105.6. Female, immature, 16 December, Alabama: 1,389.1. Female, immature, 20 January, Alabama: 1,190.7. Female, immature, 26 February, Alabama: 907.2. Female, immature, 7 March, Alabama: 1,048.9. Female, immature, 9 March, Alabama: 1,162.3.
- Red-shouldered Hawk (*Buteo lineatus*)—Male, adult, 1 December, Alabama: 491.6. Male, immature, 19 October, Alabama: 680.4. Female, immature, 23 November, Alabama: 878.8. Female, adult, 14 December, Alabama: 595.3. Female, adult, 5 January, Alabama: 567.0. Female, immature, 29 November, Alabama: 708.7. Female, adult, 16 January, Alabama: 708.7. Female, adult, 25 April, Alabama: 680.4.
- Broad-winged Hawk (*Buteo platypterus*)—Male, adult, 13 July, Alabama: 340.2. Unsexed, unaged, 20 April, Alabama: 311.0.
- Golden Eagle (*Aquila chrysaetos*)—Female, immature, 28 January, Alabama: 4,365.8.
- Marsh Hawk (*Circus cyaneus*)—Male, adult, 17 November, Alabama: 396.9.
- American Kestrel (*Falco sparverius*)—Male, adult, 29 December, Alabama: 103.0. Male, adult, 28 January, Alabama: 107.0. Female, adult, 18 September, Alabama: 118.0. Female, adult, 29 September, Alabama: 125.0. Female, adult, 20 October, Alabama: 111.0. Female, adult, 9 December, Alabama: 117.0. Female, adult, 8 January, Alabama: 123.0;

TABLE 1 (*Continued*)

WEIGHTS (GRAMS) OF BIRDS WITH SPECIES, AGE, SEX, DATE AND STATE OF COLLECTION

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113.0. Female, adult, 12 January, Alabama:	134.0. Female, adult, 26 January, Alabama:
131.0. Female, adult, 28 January, Alabama:	124.0. Female, adult, 18 March, Alabama:
119.0.	
Coot ( <i>Fulica americana</i> )—Unsexed, adult, 11 December, Alabama: 617.0.	
Killdeer ( <i>Charadrius vociferus</i> )—Female, adult, 8 January, Alabama: 104.0; 114.5. Unsexed, adult, 9 January, Alabama: 104.0.	
Black-bellied Plover ( <i>Squatarola squatarola</i> )—Male, adult, 4 January, Alabama: 198.0.	
Common Snipe ( <i>Capella gallinago</i> )—Male, adult, 4 January, Alabama: 86.0.	
Least Sandpiper ( <i>Erolia minutilla</i> )—Female, adult, no date, Alabama: 20.0.	
Herring Gull ( <i>Larus argentatus</i> )—Unsexed, adult, 17 March, Alabama: 1,234.0.	
Ring-billed Gull ( <i>Larus delawarensis</i> )—Male, adult, 15 February, Alabama: 499.0. Male, immature, 15 February, Alabama: 464.0. Female, immature, 15 February, Alabama: 432.0.	
Royal Tern ( <i>Thalasseus maximus</i> )—Female, adult, 15 February, Alabama: 492.0.	
Mourning Dove ( <i>Zenaidura macroura</i> )—Male, adult, 4 January, Alabama: 120.0.	
Barn Owl ( <i>Tyto alba</i> )—Male, adult, 8 January, Alabama: 567.0.	
Screech Owl ( <i>Otus asio</i> )—Female, adult, 7 January, Alabama: 130.0.	
Great Horned Owl ( <i>Bubo virginianus</i> )—Male, adult, 6 February, Alabama: 1,291.0. Female, adult, March, Alabama: 1,590.0.	
Barred Owl ( <i>Strix varia</i> )—Female, adult, 22 January, Alabama: 708.7. Unsexed, adult, 23 January, Alabama: 785.5.	
Short-eared Owl ( <i>Asio flammeus</i> )—Male, adult, 3 February, Alabama: 340.2. Female, adult, 15 January, Alabama: 368.5; 452.5. Unsexed, adult, 25 November, Alabama: 368.5.	
Red-headed Woodpecker ( <i>Melanerpes erythrocephalus</i> )—Female, adult, 30 May, Alabama: 72.0.	
Yellow-bellied Sapsucker ( <i>Sphyrapicus varius</i> )—Male, adult, 12 January, Alabama: 47.3.	
Downy Woodpecker ( <i>Dendrocopos pubescens</i> )—Female, adult, 17 March, Alabama: 21.0.	
Acadian Flycatcher ( <i>Empidonax virescens</i> )—Unsexed, adult, 8 July, North Carolina: 13.0. Unsexed, adult, 10 July, North Carolina: 10.0; 12.0.	
Least Flycatcher ( <i>Empidonax minimus</i> )—Male, adult, 28 April, Alabama: 10.0.	
Blue Jay ( <i>Cyanocitta cristata</i> )—Male, adult, 7 May, Alabama: 75.0.	
Tufted Titmouse ( <i>Parus bicolor</i> )—Unsexed, immature, 9 July, North Carolina: 19.0; 19.0.	
Brown-headed Nuthatch ( <i>Sitta pusilla</i> )—Male, adult, 4 January, Alabama: 11.0.	
Long-billed Marsh Wren ( <i>Telmatodytes palustris</i> )—Male, adult, 22 January, Alabama: 11.0.	
Short-billed Marsh Wren ( <i>Cistothorus platensis</i> )—Male, adult, 22 January, Alabama: 8.0.	
Catbird ( <i>Dumetella carolinensis</i> )—Male, adult, 24 April, Alabama: 35.0. Female, adult, 4 June, Alabama: 33.0.	
Brown Thrasher ( <i>Toxostoma rufum</i> )—Male, adult, January, Alabama: 81.0. Female, adult, 27 December, Alabama: 79.0.	
Robin ( <i>Turdus migratorius</i> )—Female, adult, 11 February, Alabama: 87.0.	
Wood Thrush ( <i>Hylocichla mustelina</i> )—Male, adult, 8 July, North Carolina: 44.0. Male, adult, 10 July, North Carolina: 46.0. Female, adult, 8 July, North Carolina: 45.0; 48.0. Female, adult, 9 July, North Carolina: 43.5; 45.0; 47.6.	

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TABLE 1 (Continued)

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WEIGHTS (GRAMS) OF BIRDS WITH SPECIES, AGE, SEX, DATE AND STATE OF COLLECTION

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Hermit Thrush (*Hylocichla guttata*)—Female, adult, January, Alabama: 32.0. Female, unaged, 11 February, North Carolina: 32.0.

Veery (*Hylocichla fuscescens*)—Male, adult, 9 July, North Carolina: 31.0. Male, adult, 10 July, North Carolina: 26.5; 29.5.

Golden-crowned Kinglet (*Regulus satrapa*)—Male, adult, 4 January, Alabama: 5.0.

Ruby-crowned Kinglet (*Regulus calendula*)—Male, adult, 8 April, Alabama: 8.0.

Water Pipit (*Anthus spinoletta*)—Male, adult, 4 January, Alabama: 24.5; 24.5; 25.0. Male, adult, 8 April, Alabama: 34.0; 37.0.

Cedar Waxwing (*Bombycilla cedrorum*)—Male, adult, 8 April, Alabama: 34.0; 37.0. Female, adult, 8 April, Alabama: 35.0. Unsexed, adult, 1 February, Alabama: 35.0.

Loggerhead Shrike (*Lanius ludovicianus*)—Male, adult, 3 February, Alabama: 38.0. Male, adult, 10 March, Alabama: 49.0.

Starling (*Sturnus vulgaris*)—Unsexed, unaged, 7 January, Alabama: 71.0; 71.5; 73.0; 73.0; 73.0; 73.5; 75.0; 75.5; 76.5; 77.0; 77.0; 77.0; 77.5; 78.0; 79.0; 79.0; 79.5; 79.5; 80.0; 80.0; 80.0; 80.5; 81.0; 81.0; 81.0; 82.0; 82.0; 82.0; 82.5; 83.0; 83.0; 84.5; 84.5; 85.0; 88.5.

Solitary Vireo (*Vireo solitarius*)—Female, immature, 9 July, North Carolina: 16.0.

Red-eyed Vireo (*Vireo olivaceus*)—Male, adult, 9 July, North Carolina: 15.0; 17.0. Female, adult, 10 July, North Carolina: 13.0; 14.0.

Black and White Warbler (*Mniotilta varia*)—Unsexed, immature, 8 July, North Carolina: 8.0; 8.0; 9.0; 9.0; 10.0; 10.5; 11.0; 11.5.

Worm-eating Warbler (*Helminthos vermivorus*)—Unsexed, immature, 10 July, North Carolina: 12.0; 12.5; 12.5.

Blue-winged Warbler (*Vermivora pinus*)—Male, adult, 27 April, Alabama: 9.0.

Brewster's Warbler (*Vermivora chrysoptera* × *Vermivora pinus*)—Male, adult, 26 April, Alabama: 9.0.

Orange-crowned Warbler (*Vermivora celata*)—Female, adult, 11 February, Alabama: 9.0.

Nashville Warbler (*Vermivora ruficapilla*)—Male, adult, 26 April, Alabama: 8.0.

Black-throated Blue Warbler (*Dendroica caerulescens*)—Male, adult, 8 July, North Carolina: 11.0. Unsexed, immature, 10 July, North Carolina: 8.5.

Black-throated Green Warbler (*Dendroica virens*)—Female, adult, 21 January, Alabama: 9.0.

Chestnut-sided Warbler (*Dendroica pensylvanica*)—Female, adult, 26 April, Alabama: 9.5. Unsexed, immature, 8 July, North Carolina: 9.5; 10.0.

Bay-breasted Warbler (*Dendroica castanea*)—Male, adult, 2 May, Alabama: 12.0.

Blackpoll Warbler (*Dendroica striata*)—Male, adult, 6 May, Alabama: 12.0.

Pine Warbler (*Dendroica pinus*)—Male, adult, 4 January, Alabama: 12.0. Female, adult, 4 January, Alabama: 12.5.

Ovenbird (*Seiurus aurocapillus*)—Male, adult, 9 July, North Carolina: 17.5; 19.0. Female, adult, 9 July, North Carolina: 17.0; 17.5; 17.5; 18.0; 18.5. Unsexed, immature, 9 July, North Carolina: 16.0; 16.0; 16.0; 16.5.

Kentucky Warbler (*Opornis formosus*)—Male, adult, 8 July, North Carolina: 13.0. Female, adult, 9 July, North Carolina: 13.0. Unsexed, immature, 9 July, North Carolina: 13.0.

Yellow-breasted Chat (*Icteria virens*)—Male, adult, 13 May, Alabama: 25.0.

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TABLE 1 (Continued)

WEIGHTS (GRAMS) OF BIRDS WITH SPECIES, AGE, SEX, DATE AND STATE OF COLLECTION

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Hooded Warbler ( <i>Wilsonia citrina</i> )—Male, adult, 9 July, North Carolina: 11.0; 11.5.
Canada Warbler ( <i>Wilsonia canadensis</i> )—Male, adult, 5 May, Alabama: 10.0. Female, adult, 8 July, North Carolina: 10.0; 11.0.
House Sparrow ( <i>Passer domesticus</i> )—Male, adult, 4 January, Alabama: 37.5; 37.5; 39.0; 39.0; 40.0.
Eastern Meadowlark ( <i>Sturnella magna</i> )—Male, adult, 27 December, Alabama: 116.0. Female, adult, 11 February, 90.0. Female, adult, 27 December, Alabama: 85.0.
Western Meadowlark ( <i>Sturnella neglecta</i> )—Male, adult, 28 February, Alabama: 112.0. Female, adult, 3 February, Alabama: 99.0.
Redwinged Blackbird ( <i>Agelaius phoeniceus</i> )—Male, adult, 11 February, Alabama: 71.0. Male, adult, 14 February, Alabama: 65.0. Male, immature, 9 January, Alabama: 62.0; 64.0; 64.0; 65.0; 65.5; 66.0; 67.0; 67.0; 68.0; 68.5; 68.5; 68.5; 69.0; 69.0; 69.0; 70.0; 71.0; 71.0. Female, adult, 22 December, Alabama: 41.0; 45.0; 46.8; 50.0.
Orchard Oriole ( <i>Icterus spurius</i> )—Male, immature, 29 April, Alabama: 22.0.
Baltimore Oriole ( <i>Icterus galbula</i> )—Female, adult, 6 May, Alabama: 40.0.
Rusty Blackbird ( <i>Euphagus carolinus</i> )—Male, adult, 17 January, Alabama: 62.6. Male, adult, 5 February, Alabama: 66.0. Female, adult, 5 February, Alabama: 54.5.
Common Grackle ( <i>Quiscalus quiscula</i> )—Male, adult, 17 December, Alabama: 130.0. Male, adult, 1 January, Alabama: 135.0. Male, adult, 27 January, Alabama: 112.0. Female, adult, 12 January, Alabama: 109.0.
Brown-headed Cowbird ( <i>Molothrus ater</i> )—Male, adult, 6 January, Alabama: 42.0; 44.0; 44.0; 45.0; 45.0; 46.0; 47.0; 48.0; 48.0; 49.0; 49.0; 49.0; 50.0; 50.0; 50.0; 50.0; 50.0; 50.0; 51.0; 51.0; 51.0; 51.0; 51.5; 52.0; 52.0; 52.4; 52.5; 53.0; 54.0; 54.0; 54.0; 55.0; 56.0; 56.0; 56.5; 58.5; 58.5; 60.0. Female, adult, 22 December, Alabama: 40.1; 41.5; 44.2; 44.8. Female, adult, 6 January Alabama: 34.0; 35.0; 35.5; 37.5; 37.5; 37.5; 37.5; 39.0; 40.0; 40.5; 41.0; 42.0; 42.5.
Scarlet Tanager ( <i>Piranga olivacea</i> )—Male, adult, 8 July, North Carolina: 29.5. Female, adult, 10 July, North Carolina: 27.5; 29.0. Female, immature, 10 July, North Carolina: 28.0.
Cardinal ( <i>Richmondia cardinalis</i> )—Female, adult, 8 July, North Carolina: 40.0. Female, immature, 10 July, North Carolina: 35.0.
Rose-breasted Grosbeak ( <i>Pheucticus ludovicianus</i> )—Female, adult, 2 May, Alabama: 43.0. Male, adult, 30 April, Alabama: 46.0.
Indigo Bunting ( <i>Passerina cyanea</i> )—Male, adult, 8 July, North Carolina: 12.5; 15.5. Female, adult, 8 July, North Carolina: 13.0; 13.0.
Purple Finch ( <i>Carpodacus purpureus</i> )—Male, adult, 26 January, Alabama: 24.4. Female, adult, 26 January, Alabama: 22.5; 23.6; 25.3; 25.9; 26.1; 26.4; 26.7; 26.9; 27.0; 27.2; 27.2; 27.3.
American Goldfinch ( <i>Spinus tristis</i> )—Male, adult, 11 February, Alabama: 14.0. Male, adult, 17 March, Alabama: 13.0.
Rufous-sided Towhee ( <i>Pipilo erythrophthalmus</i> )—Male, adult, 8 July, North Carolina: 42.0.
Savannah Sparrow ( <i>Passerculus sandwichensis</i> )—Female, adult, 4 January, Alabama: 23.0. Female, adult, 9 January, Alabama: 17.0. Female, adult, 26 February, Alabama: 16.0.

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TABLE 1 (Continued)

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Grasshopper Sparrow ( <i>Ammodramus</i> <i>savannarum</i> )—Male, adult, 10 March, Alabama: 13.0.
Sharp-tailed Sparrow ( <i>Ammospiza</i> <i>caudacuta</i> )—Female, adult, 22 January, Alabama: 14.0.
Seaside Sparrow ( <i>Ammospiza</i> <i>maritima</i> )—Male, adult, 22 January, Alabama: 20.0; 22.0; 22.0. Female, adult, 22 January, Alabama: 19.0.
Vesper Sparrow ( <i>Pooecetes</i> <i>gramineus</i> )—Male, adult, 26 February, Alabama: 25.0.
Slate-colored Junco ( <i>Junco</i> <i>hyemalis</i> )—Male, immature, 4 January, Alabama: 17.5.
White-crowned Sparrow ( <i>Zonotrichia</i> <i>leucophrys</i> )—Male, adult, 28 February, Alabama: 30.0.
White-throated Sparrow ( <i>Zonotrichia</i> <i>albicollis</i> )—Male, adult, 8 April, Alabama: 28.0. Female, adult, 17 March, Alabama: 25.0; 38.8; 41.5. Unsexed, adult, 12 January, Alabama: 29.4.
Fox Sparrow ( <i>Passerella</i> <i>iliaca</i> )—Male, adult, 12 January, Alabama: 38.8; 41.5. Male, adult, 27 December, Alabama: 42.0.
Song Sparrow ( <i>Melospiza</i> <i>melodia</i> )—Male, adult, 3 February, Alabama: 25.0.

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